generating a grid of said deformed image to identify a plurality of characteristic points in said deformed image, each of said characteristic points corresponding to one of said notable points; and

generating on said regular grid a undistorted image by means of a geometrical transformation correlating said characteristic points and said notable points.

21. The method according to claim 20, wherein each code element of said optical code corresponds to more than one of said characteristic points.

22. The method according to claim 20, wherein said characteristic points are central points of each code element of said optical code.

23. The method according to claim 20, further comprising the step of determining a structure of said optical code before said step of generating said regular grid.

24. The method according to claim 23, wherein said step of determining the structure of said optical code comprises the step of determining the number of code elements of said optical code.

25. The method according to claim 23, wherein said step of determining the structure of said optical code comprises the step of determining the numbers of rows and columns of said code elements in said optical code.

26. The method according to claim 25, wherein said step of determining the numbers of rows and columns of said code elements in said optical code comprises the step of specifically scanning predetermined portions of said optical code.

27. The method according to claim 26, wherein said optical code is a two-dimensional code having at least two clock lines and wherein said step of specifically scanning comprises the steps of:

acquiring the brightness values of the pixels of said deformed image arranged along said clock lines, and .

determining the number of said code elements on each of said clock lines based on the acquired brightness values.

28. The method according to claim 25, wherein said notable points are arranged in said regular grid in the same numbers of rows and columns as said code elements in said optical code.

29. The method according to claim 28, wherein said regular grid is rectangular.

30. The method according to claim 28, wherein said step of generating said regular grid comprises the step of determining coordinates of said notable points at intersections of the rows and columns of said regular grid.

31. The method according to claim 30, wherein said step of generating said regular grid further comprises the step of determining coordinates of median points of adjacent said intersections.

32. The method according to claim 20, further comprising the steps of:

generating a plurality of intersecting lines in said regular grid;

based on said intersecting lines, determining coordinates of said notable points at intersections of said intersecting lines;

determining a geometrical transformation between said notable points of said regular grid and said characteristic points of said deformed image; and

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calculating coordinates of said characteristic points by applying said geometrical transformation to the coordinates of said notable points.

33. A method of correcting distortion of a deformed image derived from reading an optical code, said optical code comprising a plurality of code elements and said deformed image comprising a plurality of pixels each having a respective brightness value associated therewith, said method comprising the steps of:

generating a regular grid including a plurality of notable points each corresponding to one of said code elements of said optical code;

determining coordinates of said notable points;

acquiring coordinates of reference points at known positions in said deformed image;

selecting predetermined said notable points corresponding to said reference points;

mapping the predetermined notable points on said reference points using the coordinates thereof, thereby determining a geometrical transformation for transforming the predetermined notable points into said reference points;

applying said geometrical transformation to generate, from said regular grid, a grid of said deformed image including a plurality of characteristic points each corresponding to one of said notable points;

generating a undistorted image by correlating said characteristic points and said notable points.

34. The method according to claim 33, wherein said reference points and the predetermined notable points are vertices of said deformed image and said regular grid, respectively.

35. The method according to claim 20, wherein said step of generating said undistorted image comprises the step of associating each of said notable points with the brightness value of the pixel arranged at the corresponding characteristic point.

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36.   The method according to claim 35, wherein said step of generating said undistorted image further comprises the step of digitizing the brightness value of the pixel arranged at the corresponding characteristic point using a digitization threshold to obtain a digitized brightness value; and wherein said step of associating comprises the step of storing the digitized brightness value for said notable point.

37.   The method according to claim 36, wherein said digitization threshold is obtained by calculating a mean brightness value of a portion of said deformed image.

38.   The method according to claim 20, wherein said geometrical transformation is homograph.

39.   The method according to claim 20, wherein said step of generating said grid of said deformed image is executed after said step of generating said regular grid. --

IN THE DRAWINGS:

Approval of change made to Fig. 4, as shown in red in the attached sheet, is respectfully requested.